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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/621,434

07/16/2003

Damon Brink

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1729

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10/06/2008

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EXAMINER

SAAD, ERIN BARRY

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/621,434	Applicant(s) BRINK, DAMON	
	Examiner ERIN P. BARRY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1-5 are pending in the application

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenau et al. (3,561,101) in view of Bampton (4,890,784).

Regarding claims 1-5, Rabenau et al. states a method of bonding bearing alloys. Rabenau et al. shows an embodiment with three sheets of metal (Figure 4): **Steel support 1** (column 2, lines 63-64), **bearing alloy 5, heterogeneous bearing alloy 3** (i.e. Al-Cu-Mg alloy; column 2, lines 24-30) and **coatings 2, 4** (i.e. pure aluminum or homogenous aluminum alloy such as Al-Mn, Al-Mg or Al-Mg-Si; column 1, lines 64-72 and column 2, lines 12-23) between the sheets. The layers are joined by a combination of heat and pressure (column 3 lines 28-36).

Rabenau et al. does not state that the material is brought to a phase transition temperature and below the melting point and maintaining the compressed structure at the phase transition temperature until the laminate structure solidifies. However, Bampton discloses diffusion bonding (pressure and heating) two metal members with

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an interlayer where the temperature is held at the diffusion bonding temperature (phase transition temperature) until the interlayer material goes from liquid to a solid (column 1 lines 10-27 and column 3 lines 24-52). The interlayer of Bampton is an alloy comprising at least two elements that are also present in the base material. As a result, these elements dissolve into the base material and produce a stronger bond (column 2 lines 32-37). It is noted that Rabenau's bearing alloy 3 (Al-Cu-Mg) has at least two elements that comprise the coatings 2,4 (Al-Mg).

It would have been obvious at the time of the invention to one of ordinary skill in the art to heat the material to the phase transition temperature and below melting as it is a well known process for diffusion bonding materials together to create a strong joint between the materials. It also would have been obvious at the time of the invention to one of ordinary skill in the art to maintain the compressed structure at the phase transition temperature until the laminate/interlayer solidifies to ensure that diffusion bonding occurs throughout the material to create a strong bond. If the interlayer is not solidified and pressure is released, movement and misalignment of the layers may occur.

Response to Arguments

4. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection. Search and consideration has been given to the newly amended claims. Claims 1-5 are rejected under 35 U.S.C. 103(a) over Rabenau et al. (3,561,101) in view of Bampton (4,890,784) as stated above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN P. BARRY whose telephone number is (571)270-3634. The examiner can normally be reached on Monday through Thursday from 8am-5pm Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. P. B./
Examiner, Art Unit 1793
9/24/2008

/Jessica L. Ward/
Supervisory Patent Examiner, Art Unit 1793